

ABSTRACT

An electrochemical fuel cell contains first and second monolithic electrically conducting flow field-bipolar plate assemblies arranged essentially parallel to each other such that an inside surface of the first bipolar separator plate is facing an inside surface of the second bipolar separator plate, wherein the bipolar separator plates are electrically and mechanically connected by intervening layers that are directly bonded to each other. The fuel cells can be stacked between endplates and supplied with hydrogen and oxygen to generate electric power. An air cooled condenser for use with a fuel cell stack is composed of a porous foam condensing element and a porous foam cooling element. The condenser can be placed by a fuel cell stack for cooling purposes.

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